



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
1501 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604-3850

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REPLY TO: EATTENTION OFF
WN-16J

CERTIFIED MAIL 7001 0320 0005 8914 8062
RETURN RECEIPT REQUESTED

Exemption (b)(6)

15857 Bear Mountain Boulevard
Bakersfield, California 93311
d/b/a Traditions South Dairy
Warren, Illinois 61087

Subject: Traditions South Dairy
Information Request Pursuant to Section 308 of the Clean Water Act
Docket No. V-W-10-308

Dear Mr. Bos:

In April 2009, the U.S. Environmental Protection Agency, Region 5 issued a Request for Information in the Matter of **Exemption (b)(6)**, 15857 Bear Mountain Boulevard, Bakersfield, California, 93311, d/b/a Traditions South Dairy, Warren, Illinois 61087, under Section 308 of the Clean Water Act (CWA), 33 U.S.C. §1318 (Docket No. V-W-09-308). The Section 308 Information Request included requests for information on specific issues related to the question of whether the Traditions South facility discharges or proposes to discharge to waters of the United States. On August 10, 2009, Traditions South submitted to EPA a response to the Information Request. On February 19, 2010, EPA issued a Supplemental Request for Information, which requested information that was either not provided in response to the April 2009 Section 308 Request, or where further information was needed to evaluate the information previously provided. On April 26, 2010, Traditions South submitted its response to the Supplemental Request. EPA is in the process of reviewing that response.

The purpose of this Request is to confirm the presence or absence of karst terrane at the Traditions South site, which is located in a known karst region, based on results of a geophysical investigation, stream study and tracer testing. Presence of karst features at the site would indicate the ability of pollutants to move rapidly from groundwater to waters of the United States, and onsite conditions that could lead to subsurface collapse. Such collapse could in turn affect holding pond liner integrity, leading to catastrophic loss of pond contents to groundwater, and ultimately to waters of the U.S. Further information is also needed in support of information Traditions South provided regarding the topography of planned land application sites. EPA is authorized under Section 308 of the CWA, 33 U.S.C. § 1318, to require reports and other information necessary to carry out the purpose of the Act. Accordingly, pursuant to Section 308 of the Act, you are directed to provide EPA with the information requested in the enclosure.


Pursuant to Section 308(b) of the CWA, you may assert a business confidentiality claim covering all or part of the information requested herein in the manner described in 40 CFR § 2.203(b). Under 40 CFR § 122.7, the entitlement does not apply to information in permit application forms, and claims of confidentiality for the following will be denied: name and address of any permit applicant or permittee, permit applications, permits, and effluent data. Information covered by such a claim will be disclosed by EPA only to the extent and by means of the procedures set forth in Subpart B, 40 CFR Part 2. If no claim of confidentiality accompanies the information requested herein when it is received, EPA may make the information available to the public without further notice to you. This inquiry is not subject to the Paperwork Reduction Act of 1980, 44 U.S.C. Chapter 35.

Compliance with this Information Request is mandatory. Failure to respond fully and truthfully to the Information Request within the timeframes specified in the enclosure, or to adequately justify such failure to respond, can result in enforcement action by EPA. Please respond in writing with the information requested in the enclosure, beginning with the study design plan for the geophysical investigation, which shall be delivered within 30 days of receipt of the Request to:

U.S. Environmental Protection Agency
Attention: Matt Gluckman
NPDES Programs Branch
Water Division, WN-16J
77 West Jackson Boulevard
Chicago, IL 60604

Thank you for your cooperation in this matter. Should you have any questions, please contact Matt Gluckman or my staff at (312) 886-6089.

Sincerely,


Tinka G. Hyde
Director, Water Division

Enclosure

cc: Marcia Willhite, IEPA
Bruce Yurdin, IEPA
Charles Corley, IEPA Rockford Regional Office
Kate Tomford, Illinois Governor's Office
Warren Goetsh, Illinois Department of Agriculture
Jane McBride, Illinois Attorney General's Office

SUPPLEMENTAL REQUEST FOR INFORMATION

DOCKET NO: V-W-10-308-33

**Proceeding under Section 308 of
the Clean Water Act, 33 U.S.C.
§ 1318**

The following request for information is made pursuant to Section 308(a)(A) of the Clean Water Act, 33 U.S.C. §1318(a)(A), which authorizes the EPA Administrator to require the owner or operator of any point source to "(i) establish and maintain such records, (ii) make such reports, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (v) provide such other information as she may reasonably require. The Administrator has delegated this authority to the Regional Administrator of EPA, Region 5, who has duly redelegated this authority to the undersigned Director, Water Division, EPA, Region 5, who hereby issues this Request for Information. Traditions South Dairy must submit information responsive to the Request for Information, notwithstanding the possibility that some responsive information may be

characterized as confidential business information under 40 CFR Part 2. Should Traditions South so request, any information (other than public information) which the Administrator determines to be confidential business information will be maintained as confidential.

However, under 40 CFR § 122.7, the confidential business information entitlement does not apply to information in permit applications, and claims of confidentiality will be denied for the following: the name and address of any permit applicant or permittee, permit applications, permits, and effluent data. A request for confidential treatment must be made when information is provided, since any information not so identified will not be accorded this protection by the Agency.

EPA has the authority to use the records and information provided in response to this Information Request in an administrative, civil, or criminal action. There are significant civil and criminal penalties for failing to respond to requests issued pursuant to Section 308(a) in a timely, complete, and accurate manner. This information request is exempt from the Paperwork Reduction Act.

INSTRUCTIONS

1. Please provide a separate response to each request and subpart of a request set forth in this Information Request. Precede each response with the number of the request and subpart of the request to which it corresponds.
2. Please identify each person consulted in the preparation of a response.
3. For each request, please identify each document consulted, examined, or referred to in the preparation of the response or that contains information responsive to the request, and provide a true and correct copy of each such document if not provided in response to another specific request.
4. Please indicate on each document produced in response to this Information Request, or in some other reasonable manner, the number of the request and subpart of the request, as applicable, to which it corresponds.

5. If requested information or documents are not known or available to you at the time of the response to this Information Request, but later becomes known or available, you must supplement your response to EPA. Moreover, should you or anyone at Traditions South find, at any time after submission of your response, that any portion is or becomes false, incomplete, or misrepresents the facts, Traditions South must provide EPA with a corrected response as soon as possible.
6. If a request asks for a date or figure (e.g., date of service, dollar amount, volumetric capacity, etc.), you should provide a good faith estimate if you cannot provide the exact figure, and explain the basis for the estimate.
7. All submissions provided, pursuant to this section 308 request, shall be signed by a responsible corporate officer of Traditions South and/or his or her duly authorized representative as defined in 40 CFR § 122.22 and contain the following certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

A. DEFINITIONS

All terms not defined herein shall have their ordinary meaning, unless such terms are defined in Section 502 of the CWA, 33 U.S.C. § 1362, or its implementing regulations found at 40 CFR Parts 122 or 412 respectively, in which case the statutory or regulatory definitions shall apply.

1. The term "**agreement**" shall mean any written document (e.g., contract, lease, memorandum of understanding, agreement in principle, letter, etc.) or verbal exchange manifesting mutual assent on the part of two or more persons. If you are asked to "identify and produce" (as defined below) the agreement, you must not only include the main text of the agreement, but also include all exhibits, attachments, and documents incorporated by reference, unless these items are published documents or are available on the internet.
2. The term "**agricultural storm water**" means a precipitation-related discharge of manure or process wastewater from land areas under the control of Traditions South, where the manure or process wastewater has been applied in accordance with site specific nutrient management practices that ensure appropriate

agricultural utilization of the nutrients in the manure or process wastewater, as specified in 40 CFR § 122.42(e)(1)(vi)-(ix).

3. The term “**animal confinement area**” includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables.
4. An “**animal feeding operation**” (AFO) is a lot or facility which meets the following conditions:
 - a. animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any twelve-month period, and
 - b. crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.
5. The term “**correspondence**” shall mean any exchange of written communications, including (but not limited to) electronic mail (“e-mail”), facsimiles, or letters as well as any and all documents that were attached (or enclosed) with some communication.
6. The term “**discharge of a pollutant**” means any addition of any pollutant to navigable waters from any point source.
7. The terms “**document**” and “**documents**” shall mean any writings, drawings, graphs, charts, photographs, phone records, electronic mail, facsimile, and other data compilations from which information can be obtained, translated if necessary, through detection devices into reasonably usable form. Documents should be produced as they are kept in the usual course of business.
8. The term “**facility or facilities**” shall mean the land, buildings, production areas and land application areas, employees, property and equipment comprising each separate dairy farm operation located or to be located in JoDaviess County in or near Nora, Illinois, 61059.
9. The term “**identify**” means, with respect to a natural person, to set forth the person’s name, present or last known business address and business telephone number, and present or last known job, title, position, or business.
10. The term “**identify**” means, with respect to a corporation, partnership, business trust or other association or business entity (including a sole proprietorship), to set forth its full name, address, legal form (e.g., corporation, partnership, etc.), organization, if any, and a brief description of its business if known. When the legal entity has already been identified once in the response, the Respondent may identify by company name only and reference the response which contains the full information required by this definition.

11. The phrase “**identify and produce**” means to identify the document by means of a reference number, which you will assign to the document for the purpose of responding to this Information Request, and provide a true and accurate copy of the document along with your response to this information request. If a document is not presently in your possession, identify the document custodian, and give a detailed description of the document by listing, its customary business description, its approximate date, and its substance or subject matter. If responsive documents have been destroyed or otherwise disposed of, identify the following information with regard to each such document;
 - a. The date that the document was destroyed or disposed;
 - b. The person who destroyed or disposed of the document; and
 - c. The reason that the document was destroyed or disposed.
12. The term “**land application area**” means land under the control of an AFO owner or operator, whether it is owned, rented, leased, or subject to an access agreement between the owner/operator and another person, to which manure, litter, or process wastewater from the production area is or may be applied.
13. The term “**manure**” includes manure, bedding, compost and raw materials or other materials commingled with manure or set aside for disposal.
14. The term “**manure storage area**” includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments, static piles, and composting piles.
15. The term “**owner or operator**” means any person who owns, leases, operates, controls, or supervises the operations of a point source.
16. The term “**person**” means an individual, corporation, partnership, association, State or Federal agency, municipality, commission, political subdivision of a State, any interstate body, or an agent or employee thereof.
17. The term “**point source**” means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged.
18. The term “**process wastewater**” means water directly or indirectly used in the operation of the AFO for any or all of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other AFO facilities; direct contact swimming, washing, or spray cooling of animals; or dust control. Process wastewater also includes any water

which comes into contact with any raw materials, products, or byproducts including manure, litter, feed, milk, eggs or bedding.

19. The term "**production area**" means the part of an AFO that includes the animal confinement area, the manure storage area, the raw materials storage area, the waste containment area, and any area used in the storage, handling, treatment or disposal of mortalities.
20. The term "**raw materials storage area**" includes but is not limited to feed silos, silage bunkers, and bedding materials.
21. For this Information Request "**Traditions South**" includes facilities located or to be located in JoDaviess County in or near Nora, Illinois, 61059.
22. For this Information Request "**Traditions South**" includes all natural persons and business entities such as; owners, officers, directors, agents, subsidiaries, parent companies, affiliates, employees, successors or additional assigns.
23. The term "**waste**" means manure, used bedding, waste feed, production area waste or any combination thereof.
24. The term "**waste containment area**" includes but is not limited to settling basins, and areas with berms and diversions which separate uncontaminated storm water.

B. INFORMATION REQUEST

Pursuant to section 308 of the Clean Water Act, 33 U.S.C. § 1318, please provide the following requested information for the Traditions South facility.

Geophysical Investigation

1. Within 30 days of the receipt of this letter, please provide a study plan and overall schedule for a preliminary geophysical investigation of the subsurface areas associated with the Traditions South Dairy's holding ponds. The objectives of this investigation are to aid tracer study design and identify and characterize subsurface fractures or karst like features. The plan shall specify the geophysical method or methods to be utilized, and the basis for method selection. Appropriate methods include, but are not limited to: microgravity, resistivity, electromagnetic induction (EMI), self (or spontaneous) potential (SP), or mise a la masse.
2. Upon approval or approval with modification of the study plan by EPA Region 5, Traditions South shall conduct the geophysical investigation in accordance with the plan and schedule.

3. The geophysical investigation shall be designed, conducted and certified by a company or individual with demonstrated expertise in geophysical investigation design, implementation, and analysis/interpretation, including specific expertise with respect to the selected methods.
4. Within 30 days of completion of the investigation, Traditions South shall provide a report to EPA Region 5. The results of the investigation shall be provided in digital format, along with analysis of results and maps to address the objectives as stated in the study plan.

Stream Study

5. Within 30 days of the receipt of this letter, Traditions South shall provide a study plan and overall schedule describing a procedure to be used to identify gaining and losing streams within the Traditions South drainage basin and surrounding vicinity. The objectives of the study are to characterize local surface waters, and to aid tracer study design.
6. Upon approval or approval with modification of the stream study plan by EPA Region 5, Traditions South shall conduct the stream study in accordance with the plan and schedule.
7. The stream study shall be designed, conducted and certified by a company or individual with demonstrated expertise in design, implementation, and analysis/interpretation of such studies.
8. Within 30 days of completion of the stream study, Traditions South shall provide a report to EPA Region 5. The results of the study shall be provided in digital format, along with analysis of results and maps to address the objectives as stated in the study plan.

Existing Natural Voids Study

9. Within 30 days of receipt of this letter, Traditions South shall provide a study plan and overall schedule describing the procedures for indirect and direct investigative methods to be used to identify existing natural surface and subsurface voids within the Traditions South drainage basin and surrounding vicinity. The objectives of the study are to characterize potential dye-injection points and to aid in the tracer study design. The plan shall allow for identification of small karstic features (e.g., sinkholes) which may not be detected through the geophysical investigation required above. The plan shall include interviews with local residents about past sinkholes at the Traditions South site or surrounding vicinity, and be designed to provide full and comprehensive descriptions of site terrane and features. The plan shall include methods for soil probing in locations where observations and/or geophysical investigations suggest regolith arches

and/or soil arches at depth. This part of the study may be conducted as part of the geophysical investigation, but neither may be conducted in lieu of the other.

10. Upon approval or approval with modifications of the existing natural voids study plans by EPA Region 5, Traditions South shall conduct the existing natural voids survey in accordance with the plan and schedule.
11. The existing natural voids survey shall be designed, conducted and certified by a company or individual with demonstrated expertise and/or experience in design, implementation, and analysis/interpretation of such surveys.
12. Within 30 days of completion of the existing natural voids survey, Traditions South shall provide a report to EPA Region 5. The results of the study shall be provided in digital format, along with analysis of results and maps to address the objectives as stated in the study plan.

Man-Made Voids Study

13. In the event the geophysical investigation, stream study, and existing natural voids study do not identify naturally occurring dye release points, Traditions South shall, within 30 days of submittal of the reports from those studies, provide a study plan and overall schedule describing the procedure to be used for the construction of man-made dye injection voids. The objectives of the study are to characterize potential dye-injection points to aid in the tracer study design. This part of the study may be conducted as part of the geophysical investigation, but neither may be conducted in lieu of the other.
14. Upon approval or approval with modifications of the man-made voids study plan and the tracer test study plan (see items 17- 18 below) by EPA Region 5, Traditions South shall begin constructing the man-made voids in accordance with the plan and schedule.
15. The construction of man-made voids shall be designed, conducted and certified by a company or individual with demonstrated relevant expertise and/or experience in design, implementation, and analysis/interpretation.
16. Within 30 days of completion of the construction phase of the man-made voids, Traditions South shall provide a report to EPA Region 5. The results of the construction(s) shall be provided in digital format, along with analysis of results and maps to address the objectives as stated in the study plan.

Tracer Test

17. Within 30 days of submittal of the geophysical investigation, stream study, existing natural voids study and, if applicable, approval of the man-made void study plan, Traditions South shall provide a study plan and schedule for a

quantitative groundwater tracer test to define groundwater flow trajectories, rates and drainage basin boundaries. The study plan shall take into account the results from the geophysical investigation, stream study, existing natural voids study and local site conditions, and if required by item 13 above, the approved man-made void study plan. The test shall utilize fluorescent dyes to tag groundwater. Dye recoveries shall be by fluorometric analysis of water and/or activated carbon.

18. The study design plan for the tracer test shall include the following, and shall specify any programs or methodologies to be utilized:
 - A. The choice of fluorescent dye(s) to be used, and the basis for the selected dye(s). Typical dyes used for hydrologic-tracing studies are provided for your reference in Attachment 1. In selecting the dye to be used, factors including, but not limited to water quality and pH of groundwater, availability of the injection point, sorption of aquifer material, and background fluorescence shall be considered.
 - B. A background fluorescence determination of groundwater sampling points.
 - C. Tracer release location, timing and methodology. The description of tracer release points shall include whether points are naturally occurring or constructed. The description of tracer release timing shall include criteria (e.g. precipitation, water table level, etc.) to be included in timing of releases. The description of methodology shall include whether single or multiple releases will be made, whether releases will be instantaneous or pulsed, and whether pre- and post-release flush water will be used.
 - D. How the mass of dye to be released will be determined.
 - E. The process for determining the subsurface solute time of travel.
 - F. Expected downgradient peak or mean dye concentration.
 - G. Methodology and description of how all downgradient groundwater discharge locations (wells, springs, seeps) will be identified for consideration as potential sampling points during the tracer test.
 - H. Methodology and description of how all downgradient discharge locations (wells, springs, seeps) will be measured for discharge.
 - I. Sampling and dye measurement methodology. The description shall include a proposed sampling schedule. Examples of sampling schedules for a karst terrane are provided for your reference in Attachment 2. The description shall also indicate whether water samples will be analyzed automatically at the sampling site, or manually in the lab. If analysis will be conducted onsite, the description shall describe the type of instrument (e.g. *in situ* fluorometer) to be

used, and how it will be calibrated. If analysis will be done in a lab, the plan shall describe the sampling and transport process that will be utilized, and the analytical methods to be used. The plan shall also provide for interim reporting to EPA in the event sampling needs to extend beyond 30 days, and shall include a description of the criteria to be used in determining when to cease looking for unrecovered dye.

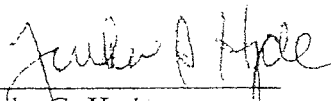
- J. Data to be generated or collected. The plan shall specify the methodology to be used to generate time-concentration data from sample results. Such data would provide the basis for a breakthrough curve (BTC) at a sampling station, which would be indicative of tracer recovery.
- 19. Upon approval or approval with modification of the tracer test study plan by EPA Region 5, Traditions South shall conduct tracer testing in accordance with the plan.
- 20. The tracer test shall be designed, conducted and certified by a company or individual with demonstrated expertise in tracer test design, implementation, and analysis/interpretation in karstic terranes.
- 21. Within 30 days of completion of the tracer testing, Traditions South shall provide a report to EPA Region 5. Results shall be provided in digital format, along with analysis of results and maps to address the stated objectives.
- 22. Within 30 days of the receipt of this letter, please describe the basis for the statement in item 18 of Tradition South's April 2010 response to EPA's February 19, 2010 Supplemental Request for Information that there is no known karst topography within the land application areas planned to be used by Traditions South. The response shall include any documents consulted, examined or referred to in the preparation of the April 26, 2010 response, or which contain information responsive to the February 2010 request.

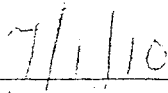
Traditions South shall deliver all submissions required by this Request within the timeframes specified above, beginning with the study design plan for the geophysical investigation, which shall be delivered within 30 days of receipt of the Request to:

U.S. Environmental Protection Agency
Attention: Matt Gluckman
NPDES Programs Branch
Water Division, WN-16J
77 West Jackson Boulevard
Chicago, IL 60604

time after submittal of the requested information, that any portion of such statement(s) certified as true is false or incorrect, the signatory shall so notify Region 5 (See attached "Authority and Confidentiality Provisions"). EPA has the authority to use the information requested in this Request for Information in an administrative, civil, or criminal action.

Neither the issuance of this Request for Information by EPA, nor compliance with this Request for Information by Traditions South shall be deemed to relieve Traditions South of liability for any penalty, fine, remedy, or sanction authorized to be imposed pursuant to Section 309(b), (c), (d), and/or (g) of the CWA, as amended, for any violations of the terms and conditions of other applicable requirements of the CWA. EPA specifically reserves the right to seek any or all of the remedies specified in Section 309(b), (c), (d), and/or (g) of the CWA for any such violations.


Tinka G. Hyde
Director, Water Division
U.S. Environmental Protection Agency
Region 5


Date

Attachments

Table 1. Typical fluorescent dyes used for hydrologic-tracing studies and their basic properties; after (Leibundgut et al., 2009, p. 67) and (KäB, 1998, p 18–122).

Fluorescent Dye Identification Name/Number				Fluorescent Dye Properties					
C.I. Generic Name	Common Name	C.I. Constitution Number	CAS Number	Excitation Maximum (nm)	Emission Maximum (nm)	Fluorescence Intensity (%)	Detection Limit ($\mu\text{g L}^{-1}$)	Photochemical Decay Rate	Temperature Exponent T^{-1} ($^{\circ}\text{C}^{-1}$)
Acid Blue 9	eriochrome	42090	3844-45-9	?	?	?	?	?	?
Acid Red 50	Acid Rhodamine G	45220	5873-16-5	535	555	14	?	1.5	0.0035
	Sulpho Rhodamine G								
Acid Red 52	Acid Rhodamine B	45100	3520-42-1	560	584	30	0.03	1.3	0.028
	Sulpho Rhodamine B				590 (Liquid)				
Acid Red 87	eosin, eosine	45380	17372-87-1	515	535	18	0.01	182	-0.00036
Acid Red 92	Phloxine B	45410	18472-87-2	541	559	?	?	?	?
Acid Red 388	Rhodamine WT	...	37299-86-8	558	583	25 ^a	0.02	0.84	0.027
Acid Yellow 7	Lissamine Flavine FF	...	2391-30-2	422	512	1.6	?	0.91	0.003
Acid Yellow 73	sodium fluorescein	45350	518-47-8	491 ^b (492)	512 ^b (513)	100 ^b	0.001	100	0.0039
	uranine			438 ^c	512 ^c	20 ^c			
Basic Violet 10	Rhodamine B	45170	81-88-9	555	582	60	0.02	1.4	0.025
Direct Yellow 96	Diphenyl Brilliant Flavine 7GFF	...	61725-08-4	415	489	?	?	?	?
Liquitint Fluorescent BW	...	89613 ^d	...	365	435	?	?	?	?
Fluorescent Brightener 15	...	?	?	345	439	3.6 ^e	?	424	0.012
Fluorescent Brightener 22	Tinopal 5BM GX	?	12224-01-0	?	?	?	?	?	?
Fluorescent Brightener 28	Tinopal BBH Pure	40622	4404-43-7	349	439	2	?	?	?
Fluorescent Brightener 351	Tinopal CBS-X	...	54351-85-8	355	435	60	?	64	-0.0365
Solvent Green 7	pyranine	59040	6358-69-6	460	512 ^b	18 ^b	0.06	24	0.0019
				407	445 ^c (512)	6 ^c			
	amino G acid	...	86-65-7	359	459	1.0	?	15	?
	sodium naphthionate	...	130-13-2	325	420	18	0.2	27	?

^a Calculated for dry mass.

^b At pH = 9.5.

^c At pH < 2.5.

^d As a liquid.

^e Accession number.

Table 4. An example of a generic sampling schedule for a karst terrane.

Distance, km	Sampling Interval, hours					
	Day 1	Day 2	Day 3	Days 4-6	Day 6	Day 15
1	2	3	4-6	8-12	24	24
1-10	4	6	8	12	24	48
>10	12	12	12	12	24	48

^a Source: Adapted from (Milanović, 1981, p. 275) and (Gaspar, 1987, p. 57).

Table 5. An example of a site-specific sampling schedule for a karst terrane.

Site No.	Distance, km	Sampling Interval, hours					
		Days 1-2	Days 3-4	Days 5-7	Days 8-14	Days 15-21	Days 22-49
1	0.60	2	4	6	12	24	56
2	0.95	2	4	6	12	24	56
3	1.40	4	6	12	24	24	56
4	2.90	4	6	12	24	24	56
5	5.00	4	6	12	24	24	56
6	11.00	12	12	24	24	24	56

^a Source: Adapted from Käß (1998, p. 333).